

August 2, 2006

Ms. Rebecca Duff  
ICF International

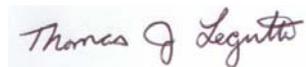
Ms. Duff,

ECR International has reviewed the Draft 1 Energy Star Furnace Specification 2.0. ECR has two primary concerns with the Specification as written.

1. The Tier II furnace fan requirement is inconsistent comparing oil and gas furnaces with the Eae metric. GAMA defines Eae as a measure of the total electrical energy supplied to a furnace during a 1 year period. With this measure electrical consumption for gas furnaces will primarily be from the gas furnace circulating air fan. However, for oil furnaces the Eae will measure the electrical consumption from both the circulating air fan and the oil burner motor. If the desire of the specification is to measure fan efficiency, the Eae metric will not provide the intended result for oil furnaces. Oil furnaces will always have higher Eae and more difficulty meeting the specification. To ECR's knowledge, there is no test protocol to specifically measure circulating air fan performance for oil furnaces.

2. The 800 kWh/year Eae threshold metric is biased to smaller appliances. As furnace size increases, so does the required air flow for the conditioned space. For medium and large size furnaces (typically >100,000 Btu/hr), large size circulating air fans are required due to the larger space. Typically, horsepower for the fan-motor system will increase from ½ to ¾ HP. Even high efficiency ¾ HP motors will have difficulty meeting the 800kWh/year requirement, not based on the motor efficiency but more the size of the motor.

Regards,



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